

## Clinical Therapeutics

in the CEDIA buprenorphine assay should be the object of further studies. For MAR patients, more specific methods than CEDIA are recommended to omit negative sanctions based on false-positive or false-negative results.

**Disclosure of Interest:** None declared

### OC035—SELF-EMPOWERING PATIENTS—A PROMISING EXAMPLE IN ORAL ANTICOAGULATION

S.V. Vormfelde<sup>1\*</sup>; M. Abu Abed<sup>1</sup>; T.D. Hua<sup>2</sup>; S. Schneider<sup>3</sup>; T. Friede<sup>3</sup>; and J.-F. Chenot<sup>4</sup>

<sup>1</sup>Clinical Pharmacology; <sup>2</sup>General Practice; <sup>3</sup>Medical Statistics, University Medicine Göttingen, Göttingen; and <sup>4</sup>General Practice, University Medicine Greifswald, Greifswald, Germany

**Introduction:** Self-empowering patients on oral anticoagulation may improve their safety and the outcome of this therapy. The aim of this study was to evaluate the effect of an individual, video-assisted, 1-hour education on patient knowledge and on anticoagulation stability as an intermediate end point.

**Patients (or Materials) and Methods:** In a cluster-randomized trial in 22 general practices, we investigated 369 patients who were on oral anticoagulation with phenprocoumon. In 11 practices, trained practice nurses educated the patients individually based on a 20-minute video, a leaflet, and a concluding questionnaire. The education lasted three quarters of an hour to an hour. Patients in the 11 control practices were handed over the leaflet and otherwise treated as usual. Patient knowledge was evaluated by questionnaires before and 6 months after the education; anticoagulation stability was evaluated by the international normalized ratio (INR) in the 6-month periods before and after the intervention.

**Results:** Six months after the intervention, the educated patients had better safety-relevant knowledge and their anticoagulation tended to be more stable than before the education. Knowledge and INR stability did not change in the controls. In particular, 68% of the patients knew that acetaminophen (paracetamol) is the safest over-the-counter analgesic for the combination with phenprocoumon compared with 22% before ( $P < 0.001$ ). Basic diet rules were known to 71% of the patients compared with 30% before ( $P < 0.001$ ). Painful swelling realized 60% as a signal symptom compared with 26% before ( $P < 0.001$ ). Suddenly disturbed speech was a signal symptom to 80% compared with 49% of these patients before the education ( $P < 0.001$ ). How to proceed after a forgotten intake knew 57% compared with 14% before the education ( $P < 0.001$ ). The INR was outside the intended range for 29% of the time during the 6 months after the education in the intervention group compared with 36% of the time in the control patients ( $P = 0.09$ ).

**Conclusion:** Self-empowering patients with this 1-hour education significantly improved patient knowledge over 6 months and tended to improve the intermediate end point INR stability. This education could be easily implemented in routine practice. In addition, this education provides a promising example to self-empower patients in further therapies.

**Disclosure of Interest:** None declared.

### OC036—IMPACT OF CYP2C9 POLYMORPHISMS ON THE VULNERABILITY TO PHARMACOKINETIC DRUG-DRUG INTERACTIONS DURING ACENOCOUMAROL TREATMENT

V. Rollason<sup>1\*</sup>; L. Gschwind<sup>1,2</sup>; F. Boehlen<sup>3</sup>; M. Rebsamen<sup>4</sup>; C. Combescure<sup>5</sup>; M. Grünenwald<sup>1</sup>; A. Matthey<sup>1</sup>; P. Bonnabry<sup>2,6</sup>; P. Dayer<sup>1</sup>; and J.A. Desmeules<sup>1</sup>

<sup>1</sup>Division of Clinical Pharmacology and Toxicology, Geneva University Hospitals, Genève 14; <sup>2</sup>School of Pharmaceutical Sciences, University of Geneva/University of Lausanne, Geneva/Lausanne; <sup>3</sup>Division of Angiology and Haemostasis; <sup>4</sup>Division of Laboratory Medicine; <sup>5</sup>Division of Clinical Epidemiology; and <sup>6</sup>Pharmacy, Geneva University Hospitals, Genève 14, Switzerland

**Introduction:** Acenocoumarol is a vitamin K antagonist characterized by a large interpatient variability in the dose required to achieve target anticoagulation. There is extensive evidence that a large part of the variability of VKAs can be explained by genetic factors, especially polymorphisms in the VKORC1 and the CYP2C9 genes. The objective of this study was to investigate the impact of CYP2C9 polymorphisms and drug-drug interactions on the risk of overanticoagulation and on the mean daily dose in patients treated with acenocoumarol.

**Patients (or Materials) and Methods:** This prospective observational study included 115 hospitalized patients starting acenocoumarol treatment. Data were collected during the first 35 days of therapy and included sex, age, INR measurements, acenocoumarol doses, comorbidities, and comedication. Patients were genotyped for CYP2C9, CYP2C19, and VKORC1. Drugs known to inhibit CYP2C9 using the table developed by the Division of Clinical Pharmacology and Toxicology, Geneva University Hospitals, Switzerland, were carefully listed.

**Results:** The difference for time to overanticoagulation in presence or absence of CYP2C9 inhibitors for all patients, independent of the genotype, was significant ( $P < 0.001$ ). The presence of a CYP2C9 inhibitor or a CYP2C9 polymorphism, independently, statistically increased the risk of overanticoagulation (HR = 2.8 [ $P < 0.001$ ] and HR = 1.7 [ $P = 0.004$ ], respectively). For CYP2C9\*1/\*1 genotype only, in the presence of a CYP2C9 inhibitor, 52% of wild-type patients presented an INR  $\geq 4$  versus 22% in absence of a CYP2C9 inhibitor. In wild-type patients, the HR was 2.7 ( $P = 0.02$ ) in the presence of a CYP2C9 inhibitor compared with the absence of CYP2C9 inhibitor. For patients carriers of CYP2C9\*2 or CYP2C9\*3 alleles, in the presence of a CYP2C9 inhibitor, 78% of carriers presented an INR  $\geq 4$  versus 48% in the absence of CYP2C9 inhibitor. For patients carriers of CYP2C9\*2 or CYP2C9\*3 alleles, the HR was 2.9 ( $P = 0.01$ ) in presence of a CYP2C9 inhibitor. Presence of the CYP2C9\*3 allele and VKORC1-1639GA and VKORC1-1639AA were significantly associated with a lower dose compared with wild-type subjects with a decrease of nearly 35%, 25%, and 45%, respectively, in dose requirement. CYP2C9\*2 and CYP2C19\*2 were not associated with lower acenocoumarol doses. The presence of a CYP2C9 inhibitor was associated with a decrease of 20% in dose requirement ( $P < 0.05$ ).

**Conclusion:** The results of our study confirm that the presence of at least 1 allelic variant of CYP2C9 and/or the prescription of CYP2C9 inhibitors expose patients to an increased additive risk of overanticoagulation. The VKORC1-1639GA and -1639AA genotypes and the presence of a CYP2C9\*3 allele were associated with a lower dose of acenocoumarol. These findings support that CYP2C9 genotyping could be useful for identifying patients requiring a closer monitoring, especially in the presence of a CYP2C9 inhibitor.

**Disclosure of Interest:** None declared.

### OC037—SLEEP QUALITY OF CHRONIC BENZODIAZEPINE USERS IN NURSING HOMES: A COMPARATIVE STUDY WITH NON-USERS

J. Bourgeois<sup>1\*</sup>; M. Elseviers<sup>2</sup>; L. Van Bortel<sup>1</sup>; M. Petrovic<sup>3</sup>; and R. Vander Stichele<sup>1</sup>

<sup>1</sup>Heymans Institute of Pharmacology, Ghent University, Ghent;